



**UNITED STATES ENVIRONMENTAL PROTECTION
AGENCY
REGION 10**

1200 Sixth Avenue, Suite 155
Seattle, WA 98101-3188

SUPERFUND &
EMERGENCY
MANAGEMENT DIVISION

December 16, 2020

ACTION MEMORANDUM

SUBJECT: Removal Action at the 2020 Ritzville Mercury Emergency Response Site

FROM: Dale Becker, On-Scene Coordinator
Emergency Response Section
Emergency Management Branch

THRU: Stephen Ball, Acting Section Chief
Emergency Response Section
Emergency Management Branch

Beth Sheldrake, Branch Chief
Emergency Management Branch

TO: Administrative Record
2020 Ritzville Emergency Response Site

I. PURPOSE

The purpose of this memorandum is to document the decision to initiate emergency response actions described herein for the 2020 Ritzville Mercury Response Site (Site) located in Ritzville, Adams County, Washington, pursuant to the On-Scene Coordinator's delegation of authority under Section 104 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S.C. SS 9604.

II. SITE INFORMATION

A. Site Description

Site Name:	2020 Ritzville Mercury Response
Superfund Site ID (SSID):	10SZ
NRC Case Number:	1285072
CERCLIS Number:	WAN001020278
Site Location:	See Confidential Enforcement Addendum
County:	Adams
Potentially Responsible Party (PRP):	See Confidential Enforcement Addendum
Access:	Obtained Friday, August 21, 2020

NPL Status: Not listed or proposed
Removal Start Date: August 20, 2020

B. Site Background

1. Removal Site Evaluation

On or around August 18, 2020, a child found an unlabeled pimento jar (approximate total capacity 4 ounces) containing elemental mercury in a (b) (6) adjacent to the family's (b) (6) house (Figure 1). The jar was opened, its contents spilled in multiple locations, and one child was exposed to mercury.

The Adams County Health Department Director of Environmental Health conducted a survey of potential sources of lead in the home on August 19, 2020. During the survey the child showed the Director of Environmental Health the jar of mercury; this was the first time the parents learned of the mercury. The Director of Environmental Health took the mercury jar in order to prevent further releases.

On August 19, 2020, (b) (6) . The child's clothes were bagged to prevent exposure in case of contamination. When the Health Department was notified (b) (6) (b) (6) the jar was taken to a lab to confirm its contents however the lab confirmed the jar was mercury based on visual inspection but did not open the jar for analysis due to concerns of contaminating the laboratory.

On Thursday, August 20, 2020, the United States Environmental Protection Agency (EPA) Region 10 Phone Duty Officer (PDO) received a report from the National Response Center regarding a release of mercury into the home.^{1,2} Mercury is a hazardous substance as defined by Section 101(14) of CERCLA, 42 U.S.C. § 9601(14).

The PDO contacted (b) (6) and received the contact information for the impacted family. The PDO then contacted the family for further details and learned that the parents were worried about further exposure to mercury and did not have the resources to procure a contractor to conduct a cleanup. The PDO, in consultation with the Acting Emergency Response Section Chief, elected to deploy a Federal On-Scene Coordinator (OSC) and response contractors. The family voluntarily stayed in a hotel the night of August 20, 2020 in order to avoid further exposure and remained temporarily relocated with support from the Adams County Health Department for the duration of the emergency response action.

An EPA OSC and Superfund Technical Assessment and Response Team (START) contractors mobilized to Ritzville on Thursday, August 20, 2020 and arrived on Site on August 21, 2020. Upon arrival on August 21, 2020, the OSC met with (b) (6) the property owner and obtained written consent for access. The property owner did not want to initiate response actions due to a lack of technical capacity and agreed to provide access for EPA to conduct response actions. The home is a (b) (6) (Figure 2) with (b) (6) on the property. START entered the house for initial assessment with the windows opened in Level C Personal Protective Equipment (PPE). Mercury concentrations in the breathing zone air and immediately above surfaces were screened using a Lumex 915+ Mercury Vapor Analyzer (MVA).

¹ Extended Spill Summary Report for NRC Report 1285072, August 27, 2020.

² Extended Spill Summary Report for NRC Report 1285106, Correction to NRC Report 1285072, August 23, 2020.

The Agency for Toxic Substances and Disease Registry (ATSDR) has provided recommended action levels for various environmental settings or exposure scenarios. The action level for normal occupancy in residential settings is 1,000 nanograms per cubic meter (ng/m³). The action level for normal occupancy for commercial settings where mercury exposure is not expected during normal business is 3,000 ng/m³. For personal property and vehicles, the action level ranges from 3,000 ng/m³ to 6,000 ng/m³, depending on expected use of the property, expected duration of exposure, and circumstances such as age, health, and gender of the people exposed. ATSDR recommends that the initial criteria for all mercury cleanup actions must be that no visible mercury remains.³ EPA selected 1,000 ng/m³ as the action level for the house based on the rationale of a potential exposure time of 24 hours for a residential setting. The selected action levels for personal items likely to be used by children was 3,000 ng/m³ and 6,000 ng/m³ for personal items not likely to be used by children. The action level for non-residential breathing zones, (b) (6) was 3,000 ng/m³ based on exposure duration expected to be similar to occupational exposure. The action level for outdoor and air screening immediately above surfaces was 6,000 ng/m³ based on ATSDR guidance for personal items because this level indicates that beads of elemental mercury are not present.

(b) (6) laundry area - Although breathing zone mercury concentrations were 800 ng/m³, visible beads were identified in a clothes hamper. Mercury concentrations inside the washing machine were 70,000 ng/m³. Concentrations of mercury inside the dryer were 8,000 ng/m³.

Bedroom (b) (6) - Bedroom (b) (6) was reported to have mercury spilled on the rug. Bedroom (b) (6) had concentrations of mercury in the breathing zone ranging from 11,000 - 12,050 ng/m³ and concentrations immediately above the rug were as high as 35,000 ng/m³. Mercury vapor concentrations indicated the presence of elemental mercury beads; however, beads could not be identified due to the high volume of personal items on the floor and throughout the room.

Bedroom (b) (6) - Bedroom (b) (6) had concentrations of mercury in the breathing zone of 1,300 ng/m³ at initial entry during cool morning temperatures, but an entry later in the day during warmer ambient temperature indicated a concentration of 7,000 ng/m³. Concentrations immediately above the rug were 20,000 ng/m³. Mercury vapor concentrations indicated the presence of elemental mercury beads; however, beads could not be identified due to the high volume of personal items on the floor and throughout the room.

Bedrooms (b) (6) kitchen, dining, living and bathrooms - The ambient air concentrations of mercury in the breathing space were below the residential action level of 1,000 ng/m³. Air space immediately above floors was monitored. All areas were below 800 ng/m³ except the coffee table (1,200 ng/m³), Bedroom (b) (6) (up to 2,500 ng/m³), and tub drain 6,800 ng/m³.

(b) (6) identified several personal items (i.e., clothing, (b) (6) (b) (6) needed for use during temporary relocation. Personal items were removed from the home, and screened using the MVA. Several items in rooms where mercury was not expected based on the child's account and initial air screening exceeded the action level of 3,000 ng/m³ to 6,000 ng/m³. The (b) (6) reported that multiple loads of laundry were washed after the contaminated clothes went through the washing machine.

³ ATSDR, Action Levels for Elemental Mercury Spills, March 22, 2012.
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START closed windows and reassessed the first floor to further characterize ambient air. (b) (6) bedrooms were not reassessed because Bedrooms (b) (6) did not have windows open during initial assessment and Bedrooms (b) (6) had elemental mercury requiring removal. Mercury concentrations in the breathing zone were above the residential action level of 1,000 ng/m³ throughout the first floor:

- Dining Room: 1,900 ng/m³
- Living Room: 2,000 ng/m³
- Bedroom (b) (6) 3,400 ng/m³
- Bedroom (b) (6) 3,200 ng/m³.

The family vehicle was screened; the mercury concentration inside was as high as 5,800 ng/m³. Once contaminated clothes were removed from the vehicle, the air concentrations of mercury decreased to less than 1,000 ng/m³.

START conducted a survey of outdoor areas (b) (6) where the child and family reported mercury may have been released. The (b) (6) shed where the child played with mercury had hundreds of visible beads on the floor and furniture. There were disturbed soil excavations under the shed likely caused by animals accessing the space under the shed. The shed had rough floorboards with large gaps between boards; any disturbance of the beads or shed would result in beads falling between gaps in the floor to the soil or being transported out the door. (b) (6) where the child found the jar of mercury was searched for additional hazardous substances. Visible beads were identified on the workbench and floor in the northwest section (b) (6) where the child reported playing with mercury. No additional containers of mercury were found but unlabeled and/or improperly stored containers were found and characterized using field hazard categorization methods. Nine containers were determined to contain hazardous substances or household hazardous waste.

START assessed (b) (6) vehicles and (b) (6) equipment stored on the property using an MVA and visual inspections. Visible mercury beads were found in one of the (b) (6). Outdoor ground surfaces were screened using an MVA with a funnel attached or with a black plastic bus bin as described in the 2019 Mercury Response Guidebook.⁴ Bus bins are used by restaurants to remove dirty dishes. For mercury screening purposes, the bins are inverted and allowed to heat in the sun then the MVA air intake is placed in a hole in the bin. The (b) (6) and high use lawn areas were screened using bus bins and visually inspected. Visible beads were identified on the (b) (6). No other outdoor areas were above action levels.

East Adams County Rural Health Care identified (b) (6) (b) (6) room as locations where there was potential for contamination. START used an MVA to assess (b) (6) (b) (6) pillows, bed, curtains, baseboards, sink drain, cabinet and breathing zone; all concentrations were typical background levels ranging from 5 - 10 ng/m³. START assessed the X-ray room bed, floors, baseboards, lead gowns, sink drain, drawers & cabinets, and breathing zone; all concentrations were typical background levels ranging from 5 - 15 ng/m³.

(b) (6) (b) (6) did not believe assessment was necessary. (b) (6) (b) (6) Neither the vehicle used to

⁴ EPA National Elemental Mercury Response Guidebook, March 2019.
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(b) (6) were contaminated. Based on the lack of contamination in previous locations, (b) (6) was not assessed.

Based on surveys conducted using the MVA and direct visual observation, the OSC determined that additional removal activities were required, and Emergency and Rapid Response Services (ERRS) contract services were requested.

2. Physical location and Site characteristics

The Site is a (b) (6) residence with (b) (6) (b) (6) The total population of Adams County is under 20,000. The site location is (b) (6) es from the city limits of the town Ritzville, Washington. (b) (6) (b) (6) in Ritzville was also assessed.

3. Release or threatened release into the environment of a hazardous substance, pollutant or contaminant.

Mercury is a hazardous substance as defined by Section 101(14) of CERCLA, 42 U.S.C. § 9601(14). Mercury was released into the environment at the Site. Hundreds of mercury beads were observed in the home, outside the home, and (b) (6) on the property. Visible mercury beads were observed on the surface of an outdoor (b) (6) and in a (b) (6) shed with large cracks between the rough plank floorboards; any disturbance he shed or beads would cause beads to migrate to the soil surface.

III. THREATS TO PUBLIC HEALTH WELFARE OR THE ENVIRONMENT

A. Nature of Actual or Threatened Release of Hazardous Substances, Pollutants or Contaminants.

The predominant threat to human health or welfare is the potential for exposure by inhalation of mercury vapors, although dermal contact with free mercury is also a serious threat to humans. Hundreds of mercury beads were observed in the home, outside the home, and in other structures on the property. The presence of mercury also was confirmed based on high mercury vapor concentrations on several items of furnishings and personal property. The family agreed to be temporarily relocated to a local hotel with support from the Adams County Health Department for the duration of the emergency response action.

Mercury vapor concentrations were often 10-50 times greater than the ATSDR-recommended 1,000 ng/m³ action levels for residential occupancy in (b) (6) bedrooms and in certain discrete areas of the main residence.

B. Applicable factors (from 40 CFR 300.415) which were considered in determining the appropriateness of a removal action:

1. Actual or potential exposure to nearby human populations, animals or the food chain from hazardous substances or pollutants or contaminants (300.415(b)(2)(i)).

A child was exposed to mercury, and (b) (6) bedrooms contained elemental mercury beads on flooring, clothing, (b) (6) Children's bedding, clothes (b) (6) throughout the house were

contaminated with mercury. Mercury vapors exceeding ATSDR-recommended concentrations were measured throughout the main residence and in (b) (6) shed, and on many objects of personal property.

Mercury primarily causes health effects when it is breathed as a vapor where it can be absorbed through the lungs. These exposures can occur when mercury is spilled or when products that contain mercury break and release mercury to the air, particularly in warm or poorly ventilated indoor spaces. Dermal contact with free mercury is also a serious threat to humans. Mercury is known to cause irreversible damage to the developing nervous system. Most at risk are women who are pregnant or may become pregnant and nursing or young children. Other common health effects in adults include various neurological dysfunctions such as tremors, changes in vision, loss of hearing, muscle coordination, loss of sensation, and difficulties with memory.^{5,6}

2. High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate (300.415(b)(2)(iv)).

Visible mercury beads were observed on the surface of an outdoor (b) (6) and in a (b) (6) shed with large cracks between the rough plank floorboards; any disturbance of the shed or beads would cause beads to migrate to the soil surface. Beads on the patio, shed floor, and soil surface could easily be tracked elsewhere by foot traffic and were tracked elsewhere when contaminated personal items were moved around the Site.

3. The availability of other appropriate federal or state response mechanisms to respond to the release (300.415(b)(2)(vii)).

(b) (6) requested assistance from the EPA to conduct an emergency response and cleanup. The PDO contacted the Washington State Department of Ecology (Ecology) State On-Scene Coordinators responsible for central and eastern regions of Washington who told the PDO that Ecology did not have the appropriate instrumentation or equipment to effectively respond to a mercury spill.⁷ The property owner stated he did not have the capacity to conduct the cleanup. Adams County Health District requested EPA assistance to address the release.⁸ There were no known, other appropriate federal or state response mechanisms capable of providing the appropriate resources in a prompt manner needed to address the potential human health threats described herein and, therefore, EPA response assets were deployed.

IV. SELECTED REMOVAL ACTION AND ESTIMATED COSTS

A. Situation and Removal Activities to Date

1. Current Situation.

Operations began on August 21, 2020. After the initial assessment identified elemental mercury in the laundry room, Bedroom (b) (6) and Bedroom (b) (6) further assessment with an MVA found mercury vapor concentrations above residential action levels throughout the house. Adams County Health Department

⁵ <https://www.epa.gov/mercury/health-effects-exposures-mercury>

⁶ <https://www.atsdr.cdc.gov/mercury/docs/healtheffectsm Mercury.pdf>

⁷ Extended Spill Summary Report for NRC Report 1285072, August 27, 2020.

⁸ T. Taff (personal communication September 8, 2020).

provided relocation assistance enabling (b) (6) to stay in a nearby hotel to avoid exposure during cleanup activities. Adams County Health Department also arranged for disposal of the jar of mercury.

Removal of mercury occurred from August 21, 2020 to September 3, 2020. In general, the sequence of conducting remediation of a small residential mercury spill is as follows: isolate and remove mercury beads, if present, to prevent further spread of contamination; remove, segregate, and decontaminate or dispose contaminated items; decontaminate immovable objects (such as floors and walls). These basic steps were followed as described below. Depending on the degree of contamination, all attempts were made to retain and return to the property owner (b) (6) as much personal property as possible.

Residence - Personal items needed during temporary relocation were removed and screened. All reasonable attempts were made to decontaminate as much personal property as possible so that it could be returned to the owner. Personal items that were intended for children's use with mercury concentrations of 3,000 ng/m³ or less and items for adult use with mercury concentrations of 6,000 ng/m³ were placed in a clean, segregated spot for return to the (b) (6). Personal items in areas with elemental mercury (laundry area, Bedroom (b) (6) and Bedroom (b) (6)) were removed and screened. The elemental mercury was removed with a mercury vacuum after stabilization with sulfur. The dryer lint trap was cleaned with a mercury vacuum and mercury stabilizing wipes then run multiple cycles until concentrations were consistently below action levels for personal items. The washing machine was staged for disposal as decontamination was not cost effective.¹²

Ambient mercury concentrations in Bedroom (b) (6) remained above action levels after mercury vacuuming and multiple cycles of heating and ventilating; a three-foot by four-foot section of unfinished and cracked wood floor was removed due to high mercury vapor concentrations. Remaining flooring was treated with sulfur, mercury vacuumed, heated, and ventilated through multiple operating periods.

P-Traps in the bathtub and kitchen sink were removed and replaced. The refrigerator and freezer were vacuumed and wiped with mercury stabilizing wipes. After consultation with (b) (6) food that was not sealed was staged for disposal. Carpets in the living room produced mercury vapors up to 35,000 ng/m³ and Bedroom (b) (6) produced 3,000 ng/m³ in the center of the room adjacent to (b) (6) storage and (b) (6) area. The carpets in Bedroom (b) (6) and the living room were removed.

Personal items throughout the house were bagged and screened. Personal items with concentrations of mercury in the bag headspace below 20,000 ng/m³ were ventilated in the sun. Hard surfaces were wiped with mercury wipes. Low value, easy to replace items that were above action levels after one cycle of heating and ventilation were staged for disposal; items of sentimental value were ventilated in the sun for multiple days. If multiple days of ventilation did not reduce concentrations of mercury to safe levels, those items were staged for disposal. One hundred forty bags of personal items were shipped off site for disposal. Personal items that were below action levels were returned to the room from which they had been removed.

On Tuesday, September 1, confirmation clearance sampling protocols were initiated based on EPA guidance.⁹ Exterior doors and windows were closed; doors for Bedrooms (b) (6) did not fully close (b) (6) so they were left partially open, and other doors were closed. The residence was heated to between 75-85 degrees Fahrenheit and monitoring with the MVA took place every 60 minutes in each room for 8 consecutive hours. After the 8-hour test period had concluded, the average ambient mercury concentration was calculated to be 373 ng/m³, and the

⁹ EPA National Elemental Mercury Response Guidebook, March 2019.

maximum point was 706 ng/m³ in Bedroom (b) (6). The time weighted average mercury concentration was below the ATSDR-recommended 1,000 ng/m³ residential re-occupancy concentration in every room.

The OSC concluded that no further removal or decontamination was necessary, and the property owner (b) (6) were informed that the house could be reoccupied.

Property compensation agreements were negotiated with (b) (6) the property owner to ensure damage to the structure and personal items that could not be decontaminated could be replaced. Both property compensation agreements were signed by the EPA Region 10 Superfund Emergency Management Division Director on September 16, 2020. ERRS was authorized to reimburse the property owners and the residents on September 17, 2020.

Patio - Bricks were removed from a section of patio approximately 4ft x 4ft where visible mercury beads were observed. Approximately two inches of soil under the bricks was carefully removed by hand. After reassessment, the vapor concentration under the bus bin was >6,000 ng/m³ indicating a risk of elemental mercury presence. The soil was treated with sulfur then another two inches was removed. On September 1, bus bins were used to reassess the soil removal area and assess the porch, remaining patio, and high traffic lawn areas. The concentration of mercury in all areas was below 6,000 ng/m³ indicating that mercury contamination was below the site-specific action level based on ATSDR-recommended standard for personal items. This action level indicates elemental mercury is not present.

(b) (6) - Visible mercury beads and debris were removed from the workbench and (b) (6) floor. Both surfaces were swept with sulfur to stabilize and remove any remnant contamination. (b) (6) was missing siding and windows and had a floor constructed of a mix of dirt, wood, and metal. (b) (6) y concentrations in the breathing zone in (b) (6) were at ambient background levels. MVA screening of the workbench and floor detected mercury concentrations below 6,000 ng/m³, indicating removable elemental mercury was not present. (b) (6) was searched for additional jars of mercury. Although no additional mercury jars were identified, nine containers of improperly stored waste were identified. Waste was unlabeled, in unsealed or rusted containers, and incompatible strong oxidizers were stored near combustibles. The waste was characterized using field hazard categorization methods and found to be combustible. Neither the owner (b) (6) was knowledgeable about the waste origin, so it was disposed of at the county household hazardous waste drop off.

Shed - The shed, its contents, and the top foot of underlying soils were removed and staged in a 30-yard roll off bin for disposal. Areas excavated were capped with soil from a clean on-site borrow source. The soil surface was screened with the MVA after cleanup and backfill; the maximum mercury vapor surface reading was 178 ng/m³.

Vehicle - Mercury beads were stabilized with sulfur and removed from the bench seat of (b) (6) stored on the site. The seat, floor, and dash were cleaned with a mercury vacuum. Personal items stored in (b) (6) were removed, screened with the MVA, and disposed of where necessary.

2. Removal activities to date:

There are no other removal activities currently being performed by other government or private parties that have not been previously discussed.

3. Enforcement

See attached confidential enforcement addendum.

B. Removal Actions

1. Action Description

Wherever observed, visible mercury was stabilized with sulfur and removed, if possible, using a mercury vacuum. Thereafter, the affected areas were treated using commercial products, heat from a propane torch, or solar heating, and ventilation with ambient and/or forced air. In several cases, multiple techniques and serial applications were required to achieve the desired cleanup goal. Certain items or personal property were incapable of being effectively decontaminated. Those items were photographed, catalogued, and disposed.

Disposal of Mercury Contaminated Materials

On September 2, 2020, two 20 cubic yard roll off bins of mercury contaminated debris were transported off site for disposal. On September 3, 2020 one 30 cubic yard roll off bin of mercury contaminated debris was transported off site for disposal. All mercury-contaminated materials were transported to Chemical Waste Management of the Northwest in Arlington, Oregon. The contaminated materials were disposed of at facilities in compliance with the Off-Site Rule set forth in the National Oil and Hazardous Substances Contingency Plan ("NCP") at 40 C.F.R. § 300.440.

2. Contribution to Remedial Performance

This removal action is expected to be the final removal action for the Site. However, if future actions are required, the emergency removal described herein will not impede those actions based upon available information.

3. ARARs

The NCP requires that removal actions attain Applicable or Relevant and Appropriate Requirements (ARARs) under federal or state environmental or facility siting laws, to the extent practicable (40 CFR § 300.415(j)). In determining whether compliance with ARARs is practicable, the EPA may consider the scope of the removal action and the urgency of the situation. The following are requirements that may be ARARs for this removal.

Federal ARARs:

Resource Conservation and Recovery Act (RCRA) (42 U.S.C. § 6901), Subtitle "C" - Hazardous Waste Management (40 C.F.R. Parts 260 to 279). Federal hazardous waste regulations specify hazardous waste identification, management, and disposal requirements. For the management of RCRA hazardous wastes that are not Bevill-exempt, applicability of Subtitle C provisions depend on whether the waste are managed within an Area of Contamination (AOC). 55 FR 8760 (March 8, 1990). Applicable or relevant and appropriate requirements of RCRA Subtitle C (or the state equivalent) may be satisfied by off-site disposal, consistent with the Off-Site Rule, 40 C.F.R. §300.440. RCRA Subtitle C also provides treatment standards for debris contaminated with hazardous waste ("hazardous debris"), 40 C.F.R. § 268.45, although the lead agency may determine that such debris is no longer hazardous, consistent with 40 C.F.R. § 261.3(f)(2), or equivalent state regulations.

Mercury Export Ban Act (MEBA) of 2008. The Mercury Export Ban Act of 2008 (MEBA) amends the Toxic Substances Control Act (TSCA) to prohibit the export of elemental mercury from the United States effective 1 January 2013. MEBA also prohibits the sale, distribution, or transfer of elemental mercury under the control or jurisdiction of federal agencies to any other federal, state, or local government agency or to any private individual or entity, except for the transfer of elemental mercury to facilitate storage under MEBA.

State ARARs:

Washington State Department of Ecology Model Toxics Control Act (RCW 70.105D; WAC 173-340). MTCA is a potential ARAR under CERCLA and is likely applicable to soils at the Site under state law. The MTCA Method A level for mercury for unrestricted land use in soils is 2 mg/kg.

Washington State Solid Waste Handling Standards (RCW 70.95; WAC 173-350).

Washington State Solid Waste Handling Standards apply to facilities and activities that manage solid waste. The regulations set minimum functional performance standards for proper handling and disposal of solid waste; describe responsibilities of various entities; and stipulate requirements for solid waste handling facility location, design, construction, operation, and closure. This regulation is also potentially applicable or relevant and appropriate for management of excavated soil and/or debris that was generated by Site cleanup.

Washington Dangerous Waste Regulations (40 CFR Parts 260 to 268, WAC 173-303).

State law, authorized by EPA pursuant to RCRA, provides standards for the identification, management, and disposal of solid and hazardous waste. The regulations pertaining to determining whether a waste is hazardous are potentially applicable, and if any waste is determined to be hazardous, then requirements relating to disposal will likely be ARARs.

To-be-Considered Materials:

To-be-Considered Materials (TBCs) are non-promulgated advisories or guidance issued by Federal or State governments that are not legally binding, and do not have the status of potential ARARs. However, in many instances TBCs may be considered along with ARARs in determining the level of cleanup for protection of health or the environment.

EPA/ATSDR Guidance Document for Mercury Vapor Action Levels

Per EPA/ATSDR guidance, ambient conditions in residences should not exceed 1,000 ng/m³ of mercury near the surface of the floor or in child or adult breathing zones. At or below this level, normal occupancy for even the most sensitive persons is acceptable, assuming normal conditions of use. ATSDR recommends headspace readings for belongings that may have been contaminated by vapors from a mercury spill that are in the range of 3,000 to 6,000 ng/m³ of mercury be considered protective of human health. Measurements should be taken at the vents of appliances or headspace of bags containing the belongings being evaluated. Bags should be warmed passively to ambient conditions and appliances/electronics should be at operating temperatures. EPA/ATSDR criteria for use of family vehicles under normal conditions is 3,000 to 6,000 ng/m³ of mercury. Exposure duration in most vehicles is short compared with other settings, allowing a higher concentration as the floor of this range. The ceiling of the range is based on the presumption that liquid mercury may still be present but not yet

discovered. The results of actions conducted during this response met the concentration goals recommended in the EPA/ATSDR guidance.

4. Project Schedule

The EPA and response contractors mobilized to the Site on August 20, 2020 and completed all removal actions on September 3, 2020.

C. Estimated Costs*

Contractor costs	
ERRS	\$109,182
START	\$70,000
Other Extramural Costs (Strike Team, other Fed Agencies)	
Contingency costs (20% of subtotal)	\$35,837
Total Removal Project Ceiling	\$215,019

*EPA direct and indirect costs, although cost recoverable, do not count toward the Removal Ceiling for this removal action. Liable parties will be held financially responsible for costs incurred by the EPA as set forth in Section 107 of CERCLA.

V. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

A delay in action or no action at this Site would increase the actual or potential threats to the public health and/or the environment.

VI. OUTSTANDING POLICY ISSUES

None

VII. APPROVAL

This decision document represents the selected removal action for this Site, developed in accordance with CERCLA as amended, and not inconsistent with the National Contingency Plan. This decision is based on the administrative record for the Site.

Conditions at the site meet the NCP section 300.415(b) criteria for a removal action and through this document, I am approving the removal action described herein. The total project ceiling is \$215,019; this amount will be funded from the Regional removal allowance.

DALE BECKER Digitally signed by DALE BECKER
Date: 2020.12.18 15:37:45 -08'00'

12/16/2020

Dale Becker
Federal On-Scene Coordinator

Date

**VIII. ENDANGERMENT DETERMINATION UNDER CERCLA SECTION 106:
POLLUTANTS OR CONTAMINANTS**

Actual or threatened releases of pollutants or contaminants from this site may present an imminent and substantial endangerment to public health, or welfare, or the environment.

**BETH
SHELDRAKE**

Digitally signed by
BETH SHELDRAKE
Date: 2020.12.18
15 48:03 -08'00'

Beth Sheldrake, Branch Chief
Emergency Management Branch

Date

Figure 1 Site Location and Layout



Sources:

ESRI. "Imagery Hybrid" [Basemap]. Scale Not given. January 6, 2020. <http://www.arcgis.com/home/item.html?id=86265e5a4bbb4187a59719cf134e0018>. (October 5, 2020).

ESRI. "World Street Map" [Basemap]. Scale Not Given. September 23, 2020. <http://www.arcgis.com/home/item.html?id=3b93337983e9436f8db950e38a8629af>. (October 5, 2020).

Floor Plan: First Floor

(b) (6)

Not to scale



Floor Plan: Second Floor

(b) (6)

Not to scale



Floor Plan: Basement

(b) (6)

Not to scale

